

From boatanchors@theporch.com Mon Nov 20 02:24:00 1995

From: johnmb@nando.net

Subject: "BA" WWW Site. Your comments?

Message-ID: <9511192253.AA05153@merlin.nando.net>

I'm (thinking of/in the process of) creating a WWW page for displaying, well, all the stuff that we talk about here.... I've contacted my old web provider for access, and am wondering if this is of any interest to any of the rest of you.

I have access to a scanner, and was thinking of scanning in pictures of stations, rigs, keys, and whatever else BA-ish, seems interesting to scan in.... if there is interest, perhaps other list-folk could send in photos to scan in, in order to keep the site dynamic. I would love to see some of the stations discussed on this list. Is this of any interest, or do I need to get out more? I'd like to see NA4G's Hartleys on the net, as well as Robertas' mondo transmitter site, as well as images of rigs I've never seen yet.

I also thought about one other thing (that may or may not be legal). Does anyone know of the legality of posting schematics of vintage gear? If I was to make a scan of a Ranger schematic available on the net, for example, would I run afoul of someones legal department? If so, I'd have to refrain, but I thought it might be valuable to scan in prints for common gear, and put them in a FTP library as well.

My old site does have a dedicated T1 line, so it should have adequate bandwidth to support such an effort, without hammering theporch any. I seriously doubt that the pages would ever get more than niche traffic anyway, but it might be fun!

Your comments appreciated. If this gets off the ground, I would hope to make this available in a month or so. In addition to providing gear and shack pics, I'd hope to learn a little more about HTML....

So, firebottle folk, what do you think? Comments pro and con appreciated.
73,
john wb5oau/4

From boatanchors@theporch.com Mon Nov 20 02:24:00 1995

From: "James P. Rybak" <jrybak@mesa5.Mesa.Colorado.EDU>

Subject: Re: Adventurer / T-50: Twins?

Message-ID: <Pine.3.89.9511191215.A13716-0100000@mesa5.mesa.colorado.edu>

My recollection is that the Viking Adventurer and the Knight T-50 were

virtually identical electronically. The Adventurer's cabinet was sealed somewhat better against TVI and had a better finish but circuit wise there was very little difference. I assume that the components were of comparable quality. I had an Adventurer and my buddy had a T-50. I believe (but cannot swear to it) that the Adventurer came with an RCA phono jack for the rf output and that I changed that to an S0-239 at the time I built the kit. Anyway, mine had an S0-239 coax connector.

Oh, how I miss the soft purplish glow of the 807 under key down conditions! You could see it very clearly through the ventilation holes in the top of the Adventurer.

Jim Rybak W0KSD

From boatanchors@theporch.com Mon Nov 20 02:24:00 1995
From: "Dick Dillman" <ddillman@igc.apc.org>
Subject: BAs in The Netherlands
Message-ID: <68568.ddillman@igc.apc.org>

Greetings, all. I've just returned from a business trip to the Netherlands. Naturally, I used some spare time to hunt for places dealing in the type of equipment we love. Here's my report for those who may have the opportunity to visit the country.

BACO
Kromhoutstraat 36-38
Ijmuiden
Phone: 0255-511612

This is a general military surplus place with clothing, shoes, etc., but also with a significant electronics and BA section. For example, I observed the following.

Russian R-107 transceiver	95 Dutch Guilders
US RT-68	145 "
US RT-70	70 "

All seemed to be in good, complete condition. There were numerous other interesting items such as German field phones, a strange (to me) German military radio system consisting of several components on a small roll-around cart, etc. There's also a section for modern electronics as well as a good assortment of laboratory glassware, stainless steel medical tools, etc. Three stars, worth a visit, Skyking sez check it out.

P.M. Quakkelstein
Westhavenplaats 28
3131 BT Vlaardingen (near Rotterdam)
Phone: 010-4344523

As often happens in these expeditions, we arrived here just five minutes before closing so had to do a very quick recon. Several US military sets of post WWII vintage in the window boded well. Inside, the friendly proprietor, one assumes Mr. Quakkelstein himself, presided over one of those places crowded with shelves and bays with almost no place to walk (mind the 1" step in the floor half way back). Contents ranged from RT-68s to a "modern" 1kW SSB ship's transceiver, but mostly odd parts, components, tank coils, tubes, etc., etc. Once again, three stars, worth the visit.

One thing about shopping of any kind in the Netherlands is the prevalence of English. Another thing to be mindful of when buying is that national law apparently required that a license of some type be produced before a transmitter can be sold. My Dutch companion in this trek seemed to think that a ham ticket would do, so bring yours along if you have one and intend to acquire an sender of any type.

Best Regards,

Dick Dillman/WPE2VT
<ddillman@igc.apc.org>
San Francisco

From boatanchors@theporch.com Mon Nov 20 02:24:00 1995
From: KC5IJD@aol.com
Subject: CQs For Sale
Message-ID: <951119173424_27651551@emout05.mail.aol.com>

Have the following misc CQs which are extras:

1946 April, June, July, August, November, December

1947 January, May, October (2), December (2)

1948 November

1949 May

1950 January, March

\$ 25.00 plus shipping.

Joseph W Pinner
Lafayette, LA
KC5IJD
EMail: kc5ijd@aol.com

From boatanchors@theporch.com Mon Nov 20 02:24:00 1995
From: af852@rgfn.epcc.Edu (William R Colbert)
Subject: Eldico system
Message-ID: <9511190311.AA14193@rgfn.epcc.Edu>

Used to use the 119 system, our units were first on the air in 1962 and consisted of the receiver, transmitter, station control/wattmeter/phonepatch, and linear amp. Rumor had it that some of the Collins engineering staff had gone to work for Eldico and developed the 119 system - not sure if they got into a copyright battle or not, but the units did not seem to stay around for very long. ElJay, Eldico was a U.S. company, out of Long Island, NY and started making SSB transmitters in the early 50's. One of the best units(IMHO) was the SSB-100F (amateur bands) or SSB-100MIL for any frequency - change the range crystal, with the SSB-1000F linear amp. The linear used a pair of 4x250B's first, then changed to the 4CX250B's. We modified ours to a floor mounted power supply and a pair of 4-1000's. But in its original configuration, the linear was a fine desk top unit. It may not have been Collins, but it certainly was not Japanese. AAgain, BA enthusiasts wouldn't do badly by an Eldico exciter and amplifier. Oh - I believe the final was a 5894, 829B would work with lower output.
73, Ray, W5XE, El Paso, Tx

From boatanchors@theporch.com Mon Nov 20 02:24:00 1995
From: Lrware@aol.com
Subject: Good tube tester
Message-ID: <951118224509_86260597@mail04.mail.aol.com>

OK guys, I've been bit one time too many now. Once again my cheap emission tube tester lied to me... #\$\$%&!!! darn thing!
Anybody got a good working Hickok 600 or equivalent W/charts and manual for sale?

Will pay going rate plus shipping for a good unit. Does not have to be "collector" quality, I want to use it, not display it...

Thanks, Larry Ware
lrware@aol.com

From boatanchors@theporch.com Mon Nov 20 02:24:00 1995
From: w7ni@teleport.com (Stan Griffiths)
Subject: Re: Good tube tester
Message-ID: <199511192322.PAA24340@desiree.teleport.com>

>OK guys, I've been bit one time too many now. Once again my cheap emission
>tube tester lied to me... #\$\$%&!!! darn thing!
>Anybody got a good working Hickok 600 or equivlent W/charts and manual for
>sale?
>Will pay going rate plus shipping for a good unit. Does not have to be
>"collector"
>quality, I want to use it, not display it...
>
>Thanks, Larry Ware
>lrware@aol.com
>

Hi Larry,

I have a tube tester question for you. When your tube tester lies to you, does it tell you a good tube is bad or that a bad tube is good?

This may not seem like a serious question to you, but I am not very familiar with tube testers. I have never owned one and there was not a single one in sight at Tekronix all the years I worked there. Tek used the piece of equipment that the tube was to be used in to determine if the tube was good or bad, ie: if the tube worked (as it was supposed to) in the circuit, it was good. If it didn't, it was bad. In this scenerio, a tube tester is not needed.

I can see another scenerio, however. You have a tube circuit that doesn't work and you don't know why. You are not completely familiar with the circuit and do not have a working unit to compare to nor do you have 20 other experts within 50 feet of you. You also don't have 50 spare tubes to try. A tube tester could be real helpful.

I got out of Tek with a feeling for how hundreds of scope tube circuits should perform. I can look at how a circuit performs and usually tell you if a tube is bad or not if it is one of those circuits I am familiar with.

I am in deep trouble trying to do this in a TV set or a piece of early ham gear.

Let me guess: your tube tester usually tells you a tube is good and it still won't perform in the circuit correctly. Am I right? I suspect this is the case since most tube testers, as I understand it, only check a few parameters of the tubes you are testing and may completely overlook the critical one you need. On the other hand, the tube tester may say your tube has "low emission" but maybe your circuit doesn't care . . .

I will be interested in your comments.

Stan W7NI@teleport.com

From boatanchors@theporch.com Mon Nov 20 02:24:00 1995
From: rbiddle@MadVax.mo.ti.com (Richard Biddle)
Subject: Heathkit HW101 vernier needed
Message-ID: <9511190622.AA29126@MadVax.mo.ti.com>

After de-mousing mu \$25 HW101, I appear to have a good functional radio, except.....

Anyone happen to have the vernier mechanism for the vfo. The on on the knob end of the shaft apparently got way bent. The little mousey also ate part of the vfo dial (not to mention he liked wires too).

I also came across something I haven't seen before - a rusted in two tube socket. It really ate my lunch for a while since there was good voltage on the top and bottom of the socket, just not to the tube pins.

Also, if anyone has an extra set of manuals for the HW101 that they would like to part with, let me know. I'd rather spread the money around the list than the commercial folks.

This has been a great project since it reminded me of the HW101 I had over 23 years ago.

Thanks,
Richard, KB5WLH
rbiddle@madvax.mo.ti.com

From boatanchors@theporch.com Mon Nov 20 02:24:00 1995
From: nielw@ix.netcom.com (Niel Wiegand)
Subject: HQ120 For Trade
Message-ID: <199511200037.QAA24226@ix3.ix.netcom.com>

I have an untested/restorable HQ120. I would rather have a National NC46, NC80 or NC81. E-mail me if you would like to discuss a trade.

Thanks, Niel - WA5VLZ

From boatanchors@theporch.com Mon Nov 20 02:24:00 1995

From: "Allan Fritsche" <fritsche@msn.com>

Subject: Hr-10B revisited.

Message-ID: <UPMAIL03.199511192316090811@msn.com>

While it was raining in Houston today (almost always in Fall), I took the old Hr-10B down to the work bench, pulled all tubes, made resistance and voltage checks and all seems well. Why can't I Peak the 1682 KC IF.s without a shrill scream when then rf is turned up. Put everything back together and noticed that I had only two(2) tube shields instead of three the manual stated. The BFO was leaking so much RF without its shield, even turned off that it beat with the if's some how. I moved the shield from the first IF amp to the BFO tube and cured that problem. No problem you say, I then went looking for a extra tube shield in my junk boxes and lo and behold , I must have thrown them all out. I guess a trip to EPO in Houston tomorrow to see if they still carry. Mean while I wrapped a piece of copper around the 1st IF tube. Seems to work ok as I could listen to all the contest sweepstakes folks last evening. A thing to remember from all this garbage, If you have tube sockets that are designed for shields and they are missing. (BEWARE). The dam things were put in for a reason.

Al Fritsche
fritsche@msn.com

PS, I guess Ive never run into this problem before as all I have for boats is an s-85 and a 3-38C which have metal tubes.

From boatanchors@theporch.com Mon Nov 20 02:24:00 1995

From: Grant Youngman <gyoungma@gtetel.com>

Subject: HRO-60 Power-on POP ?

Message-ID: <Chameleon.951118214026.gyoungma@gyoungma.gtetel.com>

My otherwise fine HRO-60 has begun to exhibit a very loud KaWHACK! in the audio about 3-5 seconds after I power it on -- volume independent of the audio gain setting. One loud pop and everything is fine. The filter caps are new

(well, maybe a year old).

Anyone have a suggestion where I should explore first to fix this annoying problem?

Thanks .. Grant

Grant Youngman -- NQ5T

WANTED: Hammarlund SPC-10

gyoungma@gtetel.com

From boatanchors@theporch.com Mon Nov 20 02:24:00 1995

From: Henry van Cleef <vancleef@bga.com>

Subject: Re: HRO-60 Power-on POP ?

Message-ID: <199511190443.WAA27210@zoom.bga.com>

As Grant Youngman said

>

> My otherwise fine HRO-60 has begun to exhibit a very loud KaWHACK! in the
> audio about 3-5 seconds after I power it on -- volume independent of the audio
> gain setting. One loud pop and everything is fine. The filter caps are new
>

For what it's worth----my S-36A developed a "brrp" on dead cold
power-up that would last a second, then was fine. It wouldn't do it if
I shut the set off after about 30 seconds of operation, let it cool for
ten minutes, and powered it up again. About the time I started to
investigate, the fault went hard, and I lost all audio. Turns out a
6V6 developed a G2-G1 short. When it went hard, it took out the
cathode resistor "immediately."

You might try changing the output tube(s) and see if it goes away.

--

Hank van Cleef vancleef@bga.com vancleef@tmn.com

From boatanchors@theporch.com Mon Nov 20 02:24:00 1995

From: "James P. Rybak" <jrybak@mesa5.Mesa.Colorado.EDU>

Subject: IF Transformers

Message-ID: <Pine.3.89.9511191248.C13716-0100000@mesa5.mesa.colorado.edu>

I am looking for some 1600 kc and 460 kc IF transformers and BFO transformers. Please give me a shout if you have any to sell. I'd prefer the larger ones (about 1-1/4" square) but will take the smaller ones (about 3/4" square) if that is all that is available. I am not particular about the brands. I don't think that makes much difference.

Jim Rybak WOKSD

From boatanchors@theporch.com Mon Nov 20 02:24:00 1995

From: berg stephen erik <z931086@corn.cso.niu.edu>

Subject: Re: Lesson learned from the list

Message-ID: <Pine.3.89.9511182017.A20028-0100000@corn.cso.niu.edu>

I shipped 2 old computers to a friend in upstate New York. I packed them with strong boxes and plenty of shredded paper and bubble pack. There was several inches of packing around each unit. Ups lunched both hard drives. I filed a claim on the second one and after a month or so was reimbursed for the replacement cost. Now I have to talk her through the installation procedure and hope for the best. I do not know where in the shipping process they drop the boxes off the roof, but it is hard to pack stuff well enough. Don Merz, and Steve Thomason have both shipped heavy BA's to me and done a great job. Steve's packing job on the Johnson Thunderbolt was a work of art. It was double boxed and had sheet polystyrene foam too. I do wish I could have video taped me getting the box up my steps into the house. It was like wrestling with a 150 pound cardboard bean bag chair! I guess that we have to take our chances with shipment, but as others have pointed out, it is a good idea to err on the side of overpacking. If a Thunderbolt can arrive unscathed, I would imagine that most any other item could.

73,

Steve WA9JML

From boatanchors@theporch.com Mon Nov 20 02:24:00 1995

From: don merz <71333.144@compuserve.com>

Subject: Lit & Gear FS

Message-ID: <951119214919_71333.144_DHB33-1@CompuServe.COM>

Old Gear and Literature For Sale

CONTACT: Don Merz, N3RHT: 47 Hazel Drive, Pittsburgh, PA 15228.
412-234-8819 (weekdays, EST or leave a message anytime).
71333.144@compuserve.com

LITERATURE (PPD = Postage Paid)

Heathkit SB-201 linear amplifier assembly manual. Original. Complete, \$15 PPD
WWII Signal Corps message pads. Used by radio operators to transcribe messages.
Brand new. Neat military shack accessory. \$6 each PPD
ARRL Antenna Book. 9th edition, 1960. \$16 PPD
Howard Sams' "101 Ways To Use Your Oscilloscope." 1961. \$9 PPD
Audel's "Blueprint Reading For Mechanics and Builders." 1941. Excellent
hardback. \$14 PPD
Lunt, "Everyday Electricity." 1928. Great photos and Illustrations. Hardnback
with gorgeous embossed cover. \$21 PPD
QST Magazine--All In Excellent Condition.
1952. Complete. With "QST Library" shelf organizer. \$15
1955. Complete. With "QST Library: shelf organizer. \$15
1957. Complete. With "QST Library" shelf organizer. \$15
1958. Complete. With "QST Library: shelf organizer. \$15
1959. Missing 7,8,9,12. With "QST Library" shelf organizer. \$8
1964. Includes 1,3,5,7,8,10 issues only. \$6
CQ Magazine: 1950: 2,5 issues only. \$2

GEAR AND ACCESSORIES

King Radio "Airborne Transciever KY-95" with matching KS-501 transistorized
13.75vdc power supply (but no cable to connect the two units). Looks okay.
Very small unit for a tube-type rig. 119 - 131 mhz. Untested. \$24
Polytronics hand held microphone. Stainless steel mic sold as original
equipment with the PolyComm 2, PolyComm 6, PolyComm 6+2 and the PolyComm
23 Senior radios. With Polytronics tag, original cable and connector. \$13
Military PP-629/URR power supply. 24 - 33.5vdc at 17 amperes. 19" gray rack
mount with paint color and handles that match R390. Also uses R390-style
power connector for input. Excellent condition. Takes up 10.5" of rack
space. \$59
Simpson 650 analog VTVM. RF AC to 500V, 1000VDC + ohms. No power cord. Quite
nice. \$19
Heath IT-22 capacitor tester. Go/no-go with tuning eye indicator. Nice+. \$14
Heath AM-2 SWR meter. Good. \$8
Heath QF-1 Q-multiplier. Fair to good. \$11
Heath QF-1 Q-multiplier. Very good to eyxcellent. \$18
Heath Seneca 6 and 2 meter AM/CW transmitter. Styling matches the Mohawk and
Apache rig. All original. Front panel is excellent. Case has some spots
where paint has deteriorated (but is still there--it's just rough). With
mic connector. Untested. \$45

Heath HS-24 speaker. Matches HR-10, I think. Excellent. \$25
Heath HS-1661 speaker. Matches 16x1 rig, I think. Scratched on top but rare
as chicken lips. \$29
Four Star FS-701 shirtpocket transistor radio. With box. papers and
earphone. Brand new as far as I can tell.
Simpson Test Meters. These are 7" tall, 3' wide and 2" deep with the meter
and a binding post for each range. Bakelite.
Model 375: 0 - 25 Amperes DC. 1 binding post broken. \$8
Model 370: 0 - 25 Amperes AC. Excellent. \$12
Model 378: 0 - 100 Milliamperes AC. Excellent. \$12
Gonset 6 Meter converter for AM car radio. Dirty, untested. \$9

From boatanchors@theporch.com Mon Nov 20 02:24:00 1995
From: Dave Hockaday <wb4iuy@nando.net>
Subject: NC-300 rx
Message-ID: <9511200030.AA23421@merlin.nando.net>

Does anyone have a manual/schematic for a National NC-300?? I had one to
follow me home from a local fest today...it's in need of some serious work.
Missing many tubes but otherwise intact, I would like to breath new warmth
into it's cold metal cabinet. Any help would be appreciated.

73 de Dave WB4IUY

From boatanchors@theporch.com Mon Nov 20 02:24:00 1995
From: DUBE2@delphi.com
Subject: Temporary absence
Message-ID: <01HXT0XHGF89C0GCR@delphi.com>

I'm going to unsubscribe temporarily. Will be moving back to Texas from
California, and will be a week or so before I'm back on.

73,
Dube AB5AP <dube2@delphi.com>

A man with a gun can be disarmed; a man with an idea cannot. -DT

From boatanchors@theporch.com Mon Nov 20 02:24:00 1995
From: jeffa@ix.netcom.com (Jeff Anderson)
Subject: Test gear for sale
Message-ID: <199511191217.EAA15067@ix8.ix.netcom.com>

I've posted a list of test equipment that I'm selling (some of it BA related) to rec.radio.swap. If you can't read this usenet group, but would like to see it, let me know, and I'll e-mail you a copy.

- Jeff, WA6AHL

From boatanchors@theporch.com Mon Nov 20 02:24:00 1995
From: bill@texan.frco.com (William Hawkins)
Subject: Re: Test gear for sale
Message-ID: <9511191750.AA07134@texan.frco.com>

Yes, please, I'd like to see the list. I get r.r.s one to two weeks late from uunet.

Bill Hawkins bill@bvc.frco.com 612 895-2085 Minneapolis, MN USA

From boatanchors@theporch.com Mon Nov 20 02:24:00 1995
From: jolson@intergate.net (James Olson)
Subject: WTB: 1960 ARRL Handbook
Message-ID: <199511200027.TAA06588@keystone.intergate.net>

Wanted: 1960 ARRL Handbook. I need this edition to complete the 60's portion of my collection. I have some spares to trade, or will pay cash.
Jim, N6IF0/4
770-429-8189

From boatanchors@theporch.com Mon Nov 20 02:24:00 1995
From: MODSTEPH@ACS.EKU.EDU
Subject: WTB: power xfrmr for DX-40/35
Message-ID: <01HXU1RJ6YBM000T9S@ACS.EKU.EDU>

In a way a repeat of earlier post - need the power transformer for the Heath DX-40. Further research (thanks, Gary!) shows that it is the same transformer used in the DX-35 - so if you happen to have a "parts" DX-40 OR DX-35 and want to part with the transformer...

Or andy decent transformer in the range of 725-0-725 VDC @ 150 mils or so, I can come up with the 5 and 6 volts for filaments... (did I really say "andy..? - any decent...)

73, Al N5AIT
modsteph@acs.eku.edu

Allan Stephens
106 Bobolink Drive
Richmond, Kentucky 40475
(606) 624-0762 H

From boatanchors@theporch.com Mon Nov 20 02:24:00 1995
From: bill@texan.frco.com (William Hawkins)
Subject: Re: WWV operations
Message-ID: <9511190555.AA07009@texan.frco.com>

Yes, the best you can do by beating 10 MHz against WWV is one beat per second, because the atmospheric conditions cause it to move around that much. You can do much better by long term averaging. I've got an HP 103 crystal secondary standard good for a part in 10^9 th. It's hooked to a divider string that ends in a clock (the HP 113) that hasn't gained or lost a second against WWV time announcements. One day, I will get a timer to show the delay between the WWV tick and the tick from the HP clock.

Bought a LaVoie WWV receiver (thanks, Wally) that uses a CRT, but not Lissajous figures, to compare a standard against WWV. One circuit receives WWV on 5 or 15 MHz, and by clever mixing, derives a 10 MHz signal from the WWV carrier. It is used to create a circle on the CRT, rotating at 10 million RPS. The signal from the standard is multiplied up to 10 MHz, and used to intensity modulate the beam. This provides a bright semicircle that rotates at a rate determined by the difference between WWV and the standard. In use with the HP 103, the semicircle moves around with the changes in propagation of WWV, but doesn't rotate. One day, I had WWVH and WWV fading in and out. The semicircle would flip from one side of the CRT to the other as Colorado and Hawaii alternated.

Now as to whether you need more than 10^7 th accuracy for VHF and UHF, that would seem to be a problem. It takes very careful construction to get better stability. Seems like a handheld unit would have trouble keeping the oven hot, on batteries. Maybe when you get to 500 MHz, you can't set it within 500 Hz.

Bill Hawkins bill@bvc.frco.com 612 895-2085 Minneapolis, MN USA

From boatanchors@theporch.com Mon Nov 20 02:24:00 1995
From: Dave Creek <dcreek@pixi.com>
Subject: Re: WWV operations
Message-ID: <Pine.PCW.3.91.951118215955.2463A-1000000@gamera11.pixi.com>

On Sat, 18 Nov 1995, William Hawkins wrote:

> Yes, the best you can do by beating 10 MHz against WWV is one beat
> per second, because the atmospheric conditions cause it to move
> around that much. You can do much better by long term averaging.
> I've got an HP 103 crystal secondary standard good for a part in
> 10^9 th. It's hooked to a divider string that ends in a clock (the
> HP 113) that hasn't gained or lost a second against WWV time
> announcements. One day, I will get a timer to show the delay
> between the WWV tick and the tick from the HP clock.

> Bill Hawkins bill@bvc.frco.com 612 895-2085 Minneapolis, MN USA

When I worked in the USAF Cal Labs overseas we used the same setup as a local standard.

The cal procedure involved using a triggered scope with the external trigger driven by the 1 PPS output of the divider and the vertical input connected to the audio out of a WWV Receiver. The 1PPS break in the tone was displayed.

The fine frequency vernier of the 103 was adjusted to stop the drift of the WWV pulse. The amount of the correction was noted and this procedure was repeated every day.

The adjustment was made at the same time every day, preferably when it was dark at both WWV and the receiving station.

After several days of adjustments the corrections were smaller and smaller. After several days with no adjustment required, the HP 103 was considered stable and then only checked once a month.

Hope this is some use.

73 es Aloha,

Dave Creek, NH6BA
Ewa Beach, HI
dcreek@pixi.com